DOCUMENT RESUME

ED 102 282 UD 014 870

AUTHOR Garfinkel, Irwin; Masters, Stanley
TITLE The Effect of Income and Wage Rates on the Labor Supply of Young Men and Women. Discussion Paper No. 226-74.
INSTITUTION Wisconsin Univ., Madison. Inst. for Research on Poverty.
SPONS AGENCY Office of Economic Opportunity, Washington, D.C.
REPORT NO IRP-DP-226-74
PUB DATE Oct 74
NOTE 55p.

EDRS PRICE MF-$0.76 HC-$3.32 PLUS POSTAGE
DESCRIPTORS Age Differences; Economic Research; Employment Patterns; Employment Trends; Guaranteed Income; *Income; *Labor Economics; Labor Market; Labor Supply; Sex Differences; Statistical Analysis; *Student Employment; *Wages; *Young Adults

ABSTRACT

While static economic theory predicts that most income transfer programs will lead to reductions in the labor supply of program beneficiaries, the theory has nothing to say about the magnitude of such reductions. In order to predict the magnitude of such reductions, the labor supply schedule of potential beneficiaries must be known. In previous papers we presented estimates of the effects of income and wage rates on the labor supply of prime age males and females. In this paper we present and discuss similar results for men and women aged 20 to 24. Probably the most interesting aspect of the labor supply decision of young people is its interconnection with the decision of how much time to spend in school. The importance of the role of education is reflected here. In the first section of the paper we present our basic models, describe the data that we shall use for testing the models and discuss our a priori expectations with regard to the magnitude of (and biases in) the various elasticity estimates. In the second section we present income elasticity estimates for married men, single men, and single women. Similar estimates for married women are presented in section three, while wage and substitution elasticities are discussed briefly in section four. The final section contains a very brief summary and conclusion. (Author/JM)

ED102282

226-74

INSTITUTE FOR RESEARCH ON POVERTY DISCUSSION PAPERS

THE EFFECT OF INCOME AND WAGE RATES ON THE LABOR SUPPLY OF YOUNG MEN AND WOMEN

Irwin Garfinkel

Stanley Masters

UD 014 570

UNIVERSITY OF WISCONSIN-MADISON

ED102282

THE EFFECT OF INCOME AND WAGE RATES ON THE LABOR SUPPLY OF YOUNG MEN AND WOMEN

Irwin Garfinkel

Stanley Masters

October 1974

The research reported here was supported in part by the Institute for Research on Poverty pursuant to the provisions of the Economic Opportunity Act of 1964.

abstract

In this paper we estimate the effect of income and wage rates on the labor supply of men and women, age 25-54. Economic theory predicts a positive substitution effect and, providing leisure is a normal good, a negative income effect. In general, we do find such effects empirically. The magnitude of the results depends very heavily on whether or not we control for the young person's school status.

[illegible]

BEST COPY AVAILABLE

seasonality problems.[7] The difference between the HWK_{SW} and $HWK_{SW} \leq 40$ coefficients can be attributed to the effects of overtime. There are at least three reasons for separating out the effects of overtime. First, doing so facilitates comparison with our annual-hours-employed measure. Second, the overtime labor supply of some groups is likely to be more responsive to economic incentives. This would be particularly true of prime age males, for example, who are expected to work full time but not necessarily overtime. Third, and closely related to the second point, our ultimate interest is in using these estimated labor supply schedules to predict the labor supply reductions which would be induced by a negative income tax program. Since reductions from overtime to full-time labor supply are almost certain to be more socially and politically acceptable than reductions from full-time to less than full-time labor supply, it is important to distinguish between these two kinds of labor supply responsiveness.

In addition to the labor supply measures, we also use two measures of schooling status as dependent variables. The first (SLW) indicates whether the individual was enrolled in school during the survey week. With regard to schooling last year, however, we only have information on why an individual worked less than 50 weeks. Thus for our schooling variable for last year (SLY), we assign a person a one if and only if he worked less than 50 weeks and gave school attendance as the explanation.

Since leisure for the young can be more closely identified with time not spent working or in school rather than just time not spent working, we also include results where the dependent variable is activity status. The first, activity status in the survey week (ACTLW) is a dummy variable

with a value of one if the individual was either employed or in school during the survey week. The second, activity status last year, (ACTLY), is defined in analogous fashion.

B. Unearned Income Measures

In order to derive an estimate of the effect of income on the labor supply of an individual, it is necessary to have a measure of the income that he has which does not depend on how much he works. Earnings of other family members and family nonemployment income (NEY) are two sources of income which do not depend directly on how much the individual works. Unfortunately, in many instances they depend indirectly on how much he works. We consider NEY first.

Reported NEY in the SEO includes family income from (1) Social Security (old age, survivor's, and disability insurance [OASDI]) or railroad retirement, (2) pensions from retirement programs for government employees or military personnel or private employees; (3) veteran's disability or compensation (VD); (4) public assistance, relief, or welfare from state or local governments (PA); (5) unemployment insurance; (6) workmen's compensation, illness, or accident benefits (WC); (7) other regular income such as payments from annuities, royalties, private welfare, or relief; contributions from persons not living in the household; and alimony or Armed Forces allotments; (8) interest; (9) dividends; and (10) rent. In addition, data are available on family assets.[8] Negative correlations between components of NEY and labor supply may be observed for one of three reasons: (1) NEY leads to reduced work effort, (2) involuntary limitations on work effort lead to NEY, or (3) some third factor simultaneously causes higher-than-average work effort. Only the first

BEST COPY AVAILABLE

should be considered for purposes of estimating a labor supply schedule. Correlations between public assistance, unemployment compensation, veteran's pensions, workmen's compensation, and retirement pensions on the one hand, and labor supply on the other hand, are likely to be observed for either the second or third reason.

Consider public assistance. A priori, it is impossible to specify whether public assistance beneficiaries work less in order to receive aid, or receive aid because of limitations in the work they can do. In the latter case, public assistance payments should not be included in NEY since causation runs the wrong way. But consider for a moment the implications of the former hypothesis. If beneficiaries work less in order to qualify for public assistance, nonbeneficiaries could supposedly do the same thing. That is, beneficiaries and nonbeneficiaries with the same potential wage rate face identical budget constraints.[9] To attribute their differences in work effort to differences in NEY is erroneous. The differences in this case must be a result of different tastes.[10] Consequently, whether the (promised) receipt of public assistance leads to reduced work effort or vice versa, public assistance payments should not be included in NEY.[11]

The same arguments apply to unemployment compensation (UC) beneficiareis. If one assumes that the receipt of UC depends upon involuntary cessation or reduction of work, clearly UC should not be included in the measure of NEY. This appears to be a reasonable assumption for at least the initial qualification for benefits. Even if one assumes that once unemployed, the availability of benefits induces less effort to become re-employed, the budget constraint of the short-term unemployed person is identical to that of a longer-term unemployed who has an identical wage

12

and lives in the same state. The difference in length of unemployment, therefore, must in this case be attributed to differences in tastes. Thus, UC benefits should not be included in SEY.[12]

Our treatment of workmen's compensation and veteran's disability and pensions program benefits is similar to that of public assistance and unemployment compensation benefits. We do not count WC or VD benefits as part of SEY. Most WC benefits are paid for total temporary disabilities. Because the benefits are paid for the length of the disability, the benefit amount will normally be inversely correlated with time spent working. The inclusion of WC benefits in SEY would lead to a spurious negative correlation in the SEY coefficient. Veteran's disability payments like WC payments are likely to be the best available proxy for the severity of a health limitation on work effort, while the veterans pension program is an income-tested program, which for our purposes is similar to the public assistance program. Thus, payments from either of these programs should not be counted in SEY.

To summarize, we do not include benefits from public assistance, unemployment compensation, workmen's compensation or the veteran's programs in our measure of SEY. Our first SEY variable is then the sum of the remaining elements of reported SEY in the SEO, or the sum of interest, dividends, rent, pensions, Social Security payments, and a miscellaneous category called other nonemployment income. In practice, most of the SEY is attributable to interest, dividends, and rent. Since scholarship income is related to school attendance and thus to labor supply, we use a second variable, SEY2, in all cases except where the analysis is limited to those out of school. SEY2 is the same as SEY1 except that the miscellaneous category of SEY (including scholarships) is now excluded.

As indicated at the start of this discussion, however, the SEO reports SEO data for families and not for individuals. Especially for young people who are living with their parents, little if any of the SEO may actually be under the control of the young person whom we are considering. While this difficulty will bias our income estimates toward zero, there are other biases working in the opposite directions which we shall discuss in section IV.

In addition, to bring SEO, we can also use information on earnings of other family members to generate income-effort estimates. In particular, husband's earnings can be used to generate income estimates for wives and the family head's income can be used for young single people living with their parents.[11] Unfortunately, however, in many cases the earnings of other family members will also depend indirectly on the labor supply of the individual (e.g., a wife may work to put her husband through school).

C. Wage Rate Measures

The hourly wage rate in the SEO is constructed by dividing normal weekly earnings by actual hours worked during the survey week. In addition to being a before tax measure, there are two major problems with this wage rate variable. First, it is missing for all individuals who did not work for wages during the survey week. Thus for demographic groups in which many members do not work, e.g., students or wives, there is no measure of the actual hourly wage for large portions of the sample. Even for groups like married men where almost everyone works, however, dividing normal earnings by actual hours worked may create serious measurement errors in the wage rate variable.[12] The hourly wage rate is too low for all individuals who worked more hours than their normal work week and too high for all individuals who worked fewer hours than their normal work

ta

work. This kind of measurement error will normally bias the wage rate coefficient toward zero.[3]

A solution to both the missing wage rate and the measurement error in the wage rate problems is to use a two-stage least squares regression procedure. In a first stage, wage rates are regressed on a host of demographic variables such as education, race, health, age, and location. The coefficients of the independent variables are used to impute a potential wage rate to individuals on the basis of their demographic characteristics. In the second stage labor supply regression, the imputed wage rate is used as the independent wage rate variable. The coefficient of the imputed wage rate variable may be obtained if the variables used to derive the imputed wage rate have an direct effect on the labor supply.

Unfortunately, the variables used to impute the wage rate are likely to have direct effects on labor supply. A brief examination of some of the variables used to estimate the imputed wage rate will make this clear. The first stage equation is as follows:

WR = WR (Age, Education, Race, Health Status, Current Location, Dummy for Foreign Location at Age Sixteen, Dummy for Native Nonhousehold)

Health undoubtedly affects an individual's supply of labor independent of his wage rate. Age may be a good proxy for tastes and may also reflect demand factors. Sex account for labor market discrimination. Being blacks leads to both lower wages and lower availability of work. Education not only increases an individual's productivity but it may also change his tastes and affect the compensatory amounts of jobs which an individual can get. It does not seem unreasonable to assume that those with more education are most likely to have been socialized into a greater desire to work

and that the more educated an individual has completed and be the best proxy that we have for his ambition. That is, it is reasonable to assume that, on the average, individuals who drop out of school earlier than average will not only be less ambitious than average but less ambitious as well.

All of the variables discussed above, with the possible exception of age, have either positive economic effects on both the wage rate and labor supply or negative effects on both variables. Consequently, if they are excluded from the labor supply equations, the observed wage variable will be biased upwards. On the other hand, if all the variables are included in the labor supply specification, there will be an irremediable correlation between the error terms. Unfortunately, the present lack of any variable correlated highly with the "quality" of one's labor force participation makes this problem difficult to overcome. Since for most of these people we have no data on actual wage rates, we are forced to use the theoretical wage. While we do include variables for health, race, and marital status in our labor supply equations we do not use variables for education or for the other determinants of the potential wage.

b. Empirical Data

We present results only from a single probit in which we used three unemployment states and eight hours supplied variables, and two linear regressions wage rate and potential wage rate variables. There were two reasons for these decisions. First, [illegible] was functional form generally provided the best fit. Second, the linear and log linear wage rate specifications are the associated ones in computing [illegible] values of percentage deficiencies in labor supply which would result from NIT programs with specified guarantees and tax rates.[9]

5. Other Subprograms and Variables

In addition to the values and maps main variables, our DNS requires global time steps variable declares the following independent variables:

```
dtc PTRACT  = a binary variable which is equal to one if multi-
              precision dtc subroutines from working electronic the
              processor mode.

dtc BLOCK   = a binary variable equal to one if backlit globe and
              two microcircuit trade working spot. 0 idea and house
              mode.

dtc NCOL    = a binary variable equal to one if the individual
              can a long loud bullet shoplifting which generates
              from trade working.

dtc NLOG    = a binary variable equal to one if the individual
              has a long term shoplifting which cheat. the amount
              of work he can do.

dtc NLOG    = a binary variable equal to one if the individual
              has a long term bullet shoplifting which imagine
              the kind of work he can do.

dtc NLOG2   = a binary variable equal to one if the individual
              has a long term bullet shoplifting which imagine
              the kind and amount of work he can do.

dtc NLOG    = a binary variable which is equal to one if the
              individual's core is bright.

dtc DUMMY   = a binary variable which is equal to one if the
              individual's cure  is another inaccurate and bigger.

ptc MATCH   = a set of binary variables that simply answer an day,
              Monday, Tues, Thurs, Wed, Weeks, or Week.

DIM gap     = a set of numbers for ages 21, 22, 23, and 24.

plus CHAR   = Rudolf's nurse problem which kept an Andromeda society.
```

The twelve program variables overlap in some values. The NPRACT, NCOL, NLOG, NLOG, and NLOG2 variables are assigned to separate long term disabilities. The CLOAD variable is computed and defines a long term disability but it is used directly to enhance the effect of an economic

[illegible]

TABLE 2

SEO Young Males, Income Coefficients for Labor Supply
(not Controlling for School Status)
School Status, and Activity Status

	Married Males				Single Males				Single Females			
	OE		NEY		HE		NEY		HE		NEY	
HLF_A	-.0413	(5.7)	-.1506	(2.2)	-.0258	(5.4)	-.0335	(2.1)	-.0115	(1.8)	-.0125	(1.1)
$HEMP_A$	-.0342	(4.2)	-.1120	(1.5)	-.0247	(5.3)	-.0339	(2.2)	-.0113	(1.8)	-.0233	(2.1)
$EMPDUM_A$	$-.47\cdot10^{-5}$	(2.3)	$-.53\cdot10^{-5}$	(0.3)	$-.16\cdot10^{-5}$	(0.8)	$-2.35\cdot10^{-5}$	(3.5)	$.056\cdot10^{-5}$	(0.2)	$.068\cdot10^{-5}$	(0.2)
HWK_{SW}	-.00059	(2.0)	+.00047	(0.2)	-.000468	(3.3)	-.000492	(1.0)	-.000270	(1.5)	-.000734	(2.3)
$HWK_{SW} \leq 40$	-.00038	(1.6)	-.00038	(0.2)	-.000378	(3.3)	-.000535	(1.4)	-.000335	(2.3)	-.000645	(2.5)
$WKDUM_{SW}$	$-.96\cdot10^{-5}$	(1.8)	$-2.34\cdot10^{-5}$	(0.5)	$-.79\cdot10^{-5}$	(2.5)	$-1.23\cdot10^{-5}$	(1.1)	$-.89\cdot10^{-5}$	(2.3)	$-1.67\cdot10^{-5}$	(2.5)
SLY	$2.16\cdot10^{-5}$	(4.1)	$10.84\cdot10^{-5}$	(2.1)	$1.32\cdot10^{-5}$	(4.5)	$2.14\cdot10^{-5}$	(2.2)	$1.04\cdot10^{-5}$	(2.8)	$1.00\cdot10^{-5}$	(1.5)
SLW	$2.72\cdot10^{-5}$	(4.5)	$2.37\cdot10^{-5}$	(0.4)	$1.68\cdot10^{-5}$	(5.1)	$.22\cdot10^{-5}$	(0.2)	$1.14\cdot10^{-5}$	(3.1)	$.62\cdot10^{-5}$	(0.9)
ACTLY	all active				$.09\cdot10^{-5}$	(1.2)	$.01\cdot10^{-5}$	(0.0)	$.15\cdot10^{-5}$	(1.0)	$.15\cdot10^{-5}$	(0.5)
ACTLW	$.74\cdot10^{-5}$	(1.8)	$4.16\cdot10^{-4}$	(1.1)	$.65\cdot10^{-5}$	(3.1)	$-1.35\cdot10^{-5}$	(1.9)	$.20\cdot10^{-5}$	(0.7)	$-.94\cdot10^{-5}$	(1.8)

BEST COPY AVAILABLE

table present the coefficients from regressions, where the six alternative measures of labor supply, HLF_A, $HEMP_A$, $EMPDUM_A$, $HWK_{SW} \leq 40$, HWK_{SW} and $WKDUM_{SW}$ are the dependent variables. In these regressions, school status was not used as an independent variable. The next four rows present the coefficients from regressions where school status last year (SLY) school status last week (SLW), activity status (working or schooling vis-a-vis, neither) during the previous year (ACTLY) and during the survey week (ACTLW) are the dependent variables. In Table 3 the corresponding income elasticities are presented and where relevant those of prime age males are also presented.

Almost all of the income coefficients from the labor supply equations have the expected negative sign. While many of the OTHERN (or HE) coefficients are highly significant, most of the NEY coefficients have large standard errors and are therefore only marginally significant or statistically insignificant even though the absolute values of the coefficients are generally greater for NEY than for OTHERN (or HE). Although both the OTHERN and NEY coefficients for the married men are larger than the corresponding coefficients for the single men, the relative magnitude of the coefficients is somewhat misleading. The single young people work less than young married men and since they live with their parents they also have more income. Thus, as depicted in Table 3, the income elasticities of labor supply for young single males are often larger than the income elasticities for young married males.

On the other hand, the income elasticities are relatively low for single females. As we shall see later, these differences by sex are considerably reduced once we standardize for school attendance. Thus the

TABLE 3

SEO Young Male Income Elasticities
(not Controlling for School Status)
Compared to Prime Age Male Elasticities

	Married Males			Single Males			Single Females		
	20-24		25-54	20-24		25-54	20-24		25-54
	OE	NEY	NEY	HE	NEY	NEY	HE	NEY	NEY
HLF_A	-.15	-.54	-.06	-.31	-.40	-.12	-.12	-.13	-.44
$HEMP_A$	-.13	-.41	-.05	-.32	-.36	-.07	-.12	-.23	-.40
$EMPDUM_A$	-.03	-.04	-.04	-.01	-.33	-.02	+.01	+.01	-.29
HWK_{SW}	-.10	+.08	+.05	-.29	-.31	+.10	-.14	-.38	-.51
$HWK_{SW} \leq 40$	-.07	-.07	-.00	-.27	-.38	-.08	-.19	-.36	-.69
$WKDUM_{SW}$	-.07	-.17	-.01	-.19	-.29	-.12	-.18	-.33	-.46
SLY	1.28	6.42	NA	.30	.48	NA	.33	.32	NA
SLW	1.30	1.14	NA	.41	.05	NA	.42	.23	NA
ACTLY	NA	NA	NA	+.01	.00	NA	+.02	+.02	NA
ACTLW	+.05	+.29	NA	+.09	-.19	NA	+.02	-.14	NA

BEST COPY AVAILABLE

greater school enrollment among young men appears to be the main factor responsible for the sex differential.

In comparing the results for young people with our earlier results for the prime age groups, our expectations are generally confirmed. The labor supply of young males is far more elastic than that of prime age males. For females, however, the reverse is true. In this case social pressures may not be too great for any age group and young single females may be eager to accumulate a nest egg before marriage.

A large part of the negative income effects on labor supply for young people should be attributable to the positive income effect on school attendance. The coefficients and elasticities in the seventh and eighth rows of Tables 2 and 3 support this hypothesis. All of the coefficients are positive. Again while the OTHERS (and HE) coefficients all have very small standard errors, the standard errors of the NEY coefficients are much larger.

Note that in contrast to the labor supply income elasticities, the school attendance elasticities for married men are much larger than those for single men or women. (A much smaller percentage of married men than single men or women attend school--as indicated in Table 1.) There are, however, reasons to believe that the married OTHERS and NEY coefficients are more seriously biased in a negative direction than the single coefficients. As argued above, the married OTHERS coefficients will be biased because the wife's decision of how much to work is dependent on whether or not her husband decides to go to school. The NEY coefficient is also likely to be seriously biased because it represents a wealth and a taste effect as well as an income effect. In contrast much less of the NEY for

BEST COPY AVAILABLE

single men or women is likely to represent inherited wealth because it is dominated by parent's YET.

While the income elasticity of labor supply among young males is greater than that among prime age males, it is not necessarily the case that the demand for leisure is more elastic since time spent in school is not leisure. The coefficients reported in rows nine and ten in Table 2 are derived from regressions where activity status is the dependent variable. If the individual is either in school or at work during the year (ACTLY) or the survey week (ACTLW) he is considered to be active. Only a few of the coefficients are negative. (During the year, all married men were either in school or at work at one time or another.) The positive coefficients, probably reflect differences in the demand for different skill classes of labor. Young people from very low-income families are not only less likely to be in school but more important, of all those not in school they are most likely to have difficulty in finding a job. In any case, these results do suggest that while the income elasticity of labor supply of young males is high, the income elasticity of their demand for leisure is low and perhaps even positive.

Since a large part of the negative income effect on labor supply is attributable to the positive income effect on schooling it is useful to examine the magnitude of the negative income effect apart from the schooling status effect and to examine the income effect for students and nonstudents. In Table 4, therefore, we present in the first six rows the income coefficients from labor supply regressions which contain

TABLE 4

NIH Income Coefficients for Labor Supply
With and Without Controlling for School Status

	Married Males				Single Males				Single Females			
	OLS		SLS		OLS		SLS		OLS		SLS	
With Transferring												
NLF_h	-.7564	(6.7)	-.9268	(5.7)	-.3599	(3.9)	-.3961	(3.6)	.0409	(0.2)	-.0007	(0.1)
$HOURS_h$	-.0245	(1.8)	-.0917	(5.2)	-.0295	(2.5)	-.5809	(3.8)	-.0602	(0.6)	-.4125	(2.3)
$EARNINGS_h$	$-.29\cdot10^{-5}$	(2.7)	$.83\cdot10^{-5}$	(5.6)	$.70\cdot10^{-5}$	(8.9)	$+3.87\cdot10^{-5}$	(4.2)	$.28\cdot10^{-5}$	(0.7)	$.69\cdot10^{-5}$	(0.6)
NAP_{OH}	-.05056	(5.2)	.04696	(4.4)	-.05603	(5.7)	-.04964	(3.6)	-.05056	(6.2)	-.00961	(2.2)
NAP_{OO} ; α3	.04695	(4.2)	-.04692	(3.9)	-.05605	(4.8)	-.03964	(3.1)	-.04564	(4.8)	-.04652	(2.4)
$WEEKS_{CH}$	$-.24\cdot10^{-5}$	(6.6)	$+1.79\cdot10^{-5}$	(5.7)	$-.36\cdot10^{-5}$	(8.2)	$+3.12\cdot10^{-5}$	(3.2)	$-.44\cdot10^{-5}$	(3.7)	$+8.43\cdot10^{-5}$	(2.9)
Without Transferring												
NLF_h	-.7413	(5.7)	-.1596	(2.1)	-.3258	(3.4)	-.3933	(3.7)	-.0535	(1.0)	-.0835	(1.1)
$HOURS_h$	-.0742	(4.2)	-.1329	(3.1)	-.0267	(3.3)	-.0334	(2.2)	-.0513	(1.0)	-.0734	(1.1)
$EARNINGS_h$	$-.47\cdot10^{-5}$	(2.3)	$-.53\cdot10^{-5}$	(2.3)	$-.16\cdot10^{-5}$	(0.8)	$+2.35\cdot10^{-5}$	(3.1)	$.036\cdot10^{-5}$	(0.2)	$.069\cdot10^{-5}$	(0.2)
NAP_{OH}	-.05556	(3.3)	4.00047	(0.2)	-.0456A8	(3.3)	-.0406A2	(2.3)	-.0A0279	(1.3)	-.0A0736	(1.3)
NAP_{OO} ; α3	-.04938	(3.6)	-.04618	(3.2)	-.0A0376	(3.3)	-.0A0743	(1.6)	-.0A0243	(1.3)	-.0A0A43	(1.3)
$WEEKS_{CH}$	$-.9\cdot10^{-5}$	(2.3)	$-2.3\cdot10^{-5}$	(3.3)	$-.7\cdot10^{-5}$	(2.3)	$+2.2\cdot10^{-5}$	(2.1)	$-.2\cdot10^{-5}$	(2.1)	$+5.6\cdot10^{-5}$	(2.7)

a self-selection bias [illegible] [illegible] [illegible]

[illegible]

[illegible]

	[illegible]		[illegible]		
	[illegible]		[illegible]		[illegible]
	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]					
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]					
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]					
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

[illegible]

BEST COPY AVAILABLE

TABLE 9

SEO Income Coefficients for Wives, 20-24, Not in School
Disaggregated by Presence of Children

	Kids				No Kids			
	HE		NEY		HE		NEY	
HLF_A	-.0510	(3.2)	-.1514	(1.4)	-.0316	(1.5)	-.0043	(0.0)
$HEMP_A$	-.0510	(3.3)	-.1432	(1.3)	-.0269	(1.3)	+.0255	(0.1)
$EMPDUM_A$	-.000031	(2.7)	+.000023	(0.3)	-.000008	(0.8)	+.000063	(0.8)
HWK_{SW}	-.001024	(2.6)	-.003182	(1.1)	-.000093	(0.2)	-.002737	(0.5)
$HWK_{SW} \leq 40$	-.000989	(2.7)	-.003192	(1.3)	-.000044	(0.1)	-.002360	(0.5)
$WKDUM_{SW}$	-.000028	(2.7)	-.000089	(1.3)	-.000003	(0.2)	-.000074	(0.5)

BEST COPY AVAILABLE

TABLE 10

SEO Income Elasticity Estimates for Wives, 20-24,
Who Are Not in School

	Total				Ages 25-54	
	No Kids Control		Kids Control		Kids Control	
	HE	NEY	HE	NEY	HE	NEY
HLF_A	-.54	-.37	-.40	-.73	-.44	-.22
$HEMP_A$	-.55	-.28	-.41	-.66	-.43	-.20
$EMPDUM_A$	-.37	+.68	-.29	+.48	-.33	-.18
HWK_{SW}	-.47	-.98	-.35	-1.07	-.45	-.23
$HWK_{SW} \leq 40$	-.46	-.98	-.34	-1.06	-.45	-.25
$WKDUM_{SW}$	-.46	-1.10	-.36	-1.14	-.31	-.22

	Kids < 6				No Kids			
	20-24		25-54		20-24		25-54	
	HE	NEY	HE	NEY	HE	NEY	HE	NEY
HLF_A	-.65	-1.94	-.58	.00	-.16	-.02	-.31	-.47
$HEMP_A$	-.71	-1.99	-.59	+.04	-.14	+.13	-.32	-.44
$EMPDUM_A$	-.44	+.32	-.40	-.19	-.07	+.56	-.24	-.38
HWK_{SW}	-.70	-2.16	-.70	-.17	-.03	-.88	-.32	-.46
$HWK_{SW} \leq 40$	-.71	-2.29	-.66	-.26	-.01	-.77	-.33	-.49
$WKDUM_{SW}$	-.38	-1.21	-.68	-.11	-.04	-.90	-.30	-.47

average values of NEY for young wives (see Table 1). Fortunately, the estimates based on husband's earnings are more interesting.

As long as we standardize for presence and age of children (as we did for older wives), the elasticity estimates based on husband's earnings are slightly lower for wives, 20-24, than for those 25-54. The most interesting comparisons, however, are when we disaggregate by age of youngest child. For those with children less than six, the husband's earnings elasticity estimates are very similar for young and prime age wives. On the other hand, the corresponding estimates for those with no children are considerably lower for the young wives than for the prime-age group. These results, based on husband's earnings for out of school wives, correspond quite well with our a priori expectations.

VI. WAGE RATE AND SUBSTITUTION EFFECTS

For a variety of reasons discussed earlier, the LNPW coefficients and substitution elasticities for young people are far less reliable than the income coefficients and elasticities. In Table 11 the LNPW coefficients from the labor supply, school, and activity status regressions are presented. Because the rest of the wage rate coefficients are not comparable to those for other groups, and tend to be extremely unreliable in Table 12 we report the wage rate and substitution elasticities only for young people not in school.

Given the positive near mechanical relationship between the potential wage rate and ordinary school attendance, the significant positive coefficients for school last year are not surprising. It is surprising, however, that there is a negative relationship for single males for school

TABLE 11
Logit Coefficients for Young People

	Married Males	Single Males	Single Females	Married Females (with kid control variables)		
				Total	Kid	No Kid
SLF	.794 (4.2)	.166 (1.8)	.180 (2.3)	.981 (9.2)	.726 (4.5)	.402 (4.3)
SLW	.262 (3.3)	+.176 (1.9)	.635 (6.5)	.260 (6.8)	.243 (6.4)	.296 (3.5)
$ACSLF$	all active	.340 (3.6)	.129 (1.7)	.294 (4.0)	.326 (2.9)	.351 (3.1)
$ACSLW$	.039 (0.7)	-.026 (0.4)	.155 (2.7)	.079 (1.8)	.389 (3.6)	.317 (2.8)
Interaction Term for Those in School:						
SLF_S	-47 (2.1)	+353 (3.6)	+126 (0.1)	+995 (2.5)	+276 (1.7)	+178 (0.8)
$SLFF_S$	-37 (2.0)	+246 (4.2)	+107 (3.6)	+376 (2.4)	+298 (3.2)	+225 (0.6)
$EMPSCH_S$	.029 (1.7)	+.072 (2.1)	+.146 (3.0)	+.133 (1.1)	+.001 (7.0)	.160 (0.2)
SWS_{SW}	+10.0 (4.0)	+16.7 (7.1)	+6.3 (3.5)	+5.9 (1.7)	+10.6 (2.2)	+4.9 (0.8)
$SWS_{SW} \geq 40$	+8.7 (4.1)	+14.3 (8.0)	+14.2 (8.2)	+5.9 (1.8)	+10.4 (2.2)	+4.4 (0.9)
$AGESCH_{SW}$	+.140 (1.1)	+.367 (4.4)	+.362 (3.1)	+.097 (1.2)	+.178 (1.7)	+.091 (0.6)
Out of School:						
SLF_S	7.9 (0.2)	433 (4.3)	438 (4.5)	963 (4.1)	257 (2.6)	.765 (3.8)
$SLFF_S$	46.0 (0.6)	310 (2.9)	642 (3.8)	629 (4.0)	306 (2.3)	802 (3.9)
$EMPSCH_S$	.036 (1.3)	.223 (5.3)	.291 (5.9)	.299 (3.6)	.168 (2.2)	.356 (2.2)
SWS_{SW}	+0.4 (1.1)	8.0 (5.8)	14.2 (8.7)	10.0 (2.9)	4.9 (2.1)	10.3 (3.7)
$SWS_{SW} \geq 40$	4.0 (1.4)	10.7 (5.4)	13.8 (5.3)	9.9 (3.0)	5.6 (2.4)	10.3 (3.7)
$AGESCH_{SW}$	.183 (1.7)	.258 (2.9)	.435 (5.0)	.279 (3.2)	.238 (2.1)	.259 (2.4)

BEST COPY AVAILABLE

TABLE 11

Wage Rate and Substitution Elasticities for Young People
Who Are Out of School

	Married Males		Single Males		Single Females		Married Females					
							Total		Kid		No Kid	
	20-24	25-54	20-24	25-54	20-24	25-54	20-24	25-54	20-24	25-54	20-24	25-54
	Wage Elasticity											
$W.P_A$	.00	.02	.25	.06	.27	.33	.47	.43	.50	.36	.50	.54
$WINF_A$	.02	.05	.20	.17	.29	.23	.76	.47	.76	.39	.53	.59
$EMPWIN_A$	.03	.01	.24	.01	.23	.13	.33	.30	.10	.28	.22	.32
WAR_{IN}	-.01	.05	.26	.19	.47	.29	.68	.66	.46	.67	.63	.66
WAR_{IN} : 40	.11	.09	.40	.20	.55	.23	.70	.67	.56	.62	.60	.68
$WKWIN_{IN}$	.12	.07	.35	.16	.57	.25	.70	.66	.60	.67	.53	.56
	Substitution Elasticity*											
$W.S_A$	.01	.07	.27	.16	.26	.48	.75	.69	.58	.59	.55	.63
$WSNF_A$	.00	.09	.23	.23	.28	.64	.87	.52	.85	.64	.58	.63
$EMPWIN_A$	.01	.06	.24	.03	.23	.32	.55	.55	.56	.50	.24	.37
WAR_{IN}	-.01	.01	.26	.31	.47	.69	.75	.72	.55	.72	.62	.73
WAR_{IN} : 45	.06	.09	.38	.24	.54	.61	.77	.71	.65	.67	.50	.75
$WKWIN_{IN}$	.09	.06	.33	.26	.57	.52	.78	.70	.65	.71	.54	.62

*Based on OS or NS estimates for young people. Are shown we use the estimates controlling for age of youngest child.

BEST COPY AVAILABLE

in the survey week. Perhaps single men with relatively little schooling are more likely to attend night school. In any case, we believe these coefficients are not very informative. As noted above, during the year at one time or another all males either worked or attended school. For other groups there is generally a positive relation between the potential wage and activity status last year, probably reflecting both differences in job opportunities and tastes for schooling and market work vis-a-vis home work and leisure.

The wage rate coefficients for those attending school are often negative, a result that is not surprising in view of the negative bias in the wage rate coefficient which arises out of the fact that those in school who work will normally have completed fewer years of school than those of the same age who do not work. The coefficients in the survey week are more negative (at least for males) in large part because they measure the difference between the labor supply of those enrolled in night school and those enrolled in day school. This is the extreme case of the bias discussed above. Individuals enrolled in night school will have completed fewer grades of school and therefore be assigned lower potential wage rates than those of the same age who are enrolled in day school. But they are likely to be enrolled in night school rather than day school precisely because they are working full time or near full time.

More important wage rate results can be obtained by restricting the analysis to young people who are not in school. Some of the wage rate coefficients for married males not in school are statistically significant. The wage rate coefficients and elasticity estimates for the other groups are substantially more positive than those for married

males. As with the married men, twelve digits of the wage rate coefficients in the simple regressions are known to precision (at SMS_{20} that for SMS_{19} ; so. This suggests that young single geographic with low wage rates are more likely than those with high wage rates to be unemployed, but given employment they are more likely to work overtime. While this negative relationship between overtime and wage rates may be reflect an income effect it is also possible that those with low potential wage rates will generally have more of school leaver and those may be later acquired more opportunities for job betterment by overtime.

In Table 12 we presents wage model substitution elasticity estimates. For married males, the wage elasticities are about the same for the young as for the prime ages. While in the substitution elasticities are generally smaller for the young, we do think that this difference may result mainly from a large premium in that in the lower elasticity estimates for the younger men.

For single males the estimates are definitely smaller higher for those 25-54 than for those 25-54, which is consistent with our expectation that young single men would be in older less pressure to work. While demand factors probably play a role,in, the larger differentials for SMS_{25} than for SMS_{20} suggest that some selection factorial must also be involved.[5]

For old-in females, the substitution elasticity is larger for those 25-54, at least for the annual measures. The differences are proportionate to differences in income elasticities. This finding makes sense if we assume that older single women are a more oriented toward consumption (e.g., housing, leisure) and less toward investment (getting ahead a next age for after marriage, clothes to help in attract a husband, etc.). The larger differential for the annual measure is due reflect the desire of older single

[illegible] [illegible] [illegible] [

[19]These coefficients are obtained by adding variables interacting school status with our income variables. For NEY we use separate variables for those in and out of school. For OE and HE we add a variable for OE (or HE) times school status.

[20]For wives 20-24 we have excluded those with children aged six or older partly because we suspect that those who have children at a very young age may have different labor supply behavior than others and partly so that when we do disaggregate by presence of children our results will be reasonably comparable to the results for wives 25-54 when the latter are disaggregated by age of youngest child.

[21]If young single males have difficulty finding a job, they may be much more likely to drop out of the labor force than their older counterparts who are under similar circumstances. Thus this difference in attitudes may interact with demand factors to account for the observed pattern of results.

END

DEPT. OF HEW

NAT'L INSTITUTE OF EDUCATION

ERIC

DATE FILMED

JUNE 6 75